## Unit 2

Waves

Mr. Maxwell

**PACS** 

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- Wave Vocabulary
  - Wave Types
    - mechanical waves
    - electromagnetic waves

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## mechanical waves

- require a medium, or material (i.e. gas, liquid, solid), for transmission
- energy comes from a vibrating source
- the wave passes through a medium, but the medium itself does not travel along with the wave as energy is transmitted.

## electromagnetic waves

- do not need a medium
- include visible light as well as infrared and ultraviolet light, microwaves, X-rays, and gamma rays.
- These waves are generated by oscillations of electrical and magnetic fields from charged particles
- $\bullet$  All electromagnetic waves in a vacuum move at the same speed. This speed, 3  $\times$  108 m/s, is known as the speed of light and is represented by the letter c.